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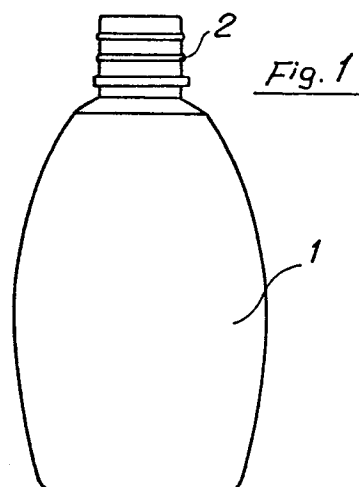
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54 **Bottle provided with cap and warranty seal particularly designed for vaginal washings and enemas.**

57 The present invention relates to a bottle provided with a cap and warranty or antitampering seal, particularly designed for vaginal washings and enemas, comprising a vessel, closed by a plug member and held in position by a ring nut coupled, through tearable portions, to a protection further cap. To the plug member there is slidably coupled a withdrawable cannula provided, outside of said vessel, with a washing solution supply head provided with closure and check valve means.



The present invention relates to a bottle, provided with a warranty seal and with a cap, specifically designed for vaginal washings and enemas.

As it is well known, ready to use solutions are presently available for making vaginal washings or enemas; those solutions are presently held in vessels which are generally provided with a flexible cannula extending from the vessel or bottle closure plug and provided, at the top, with a removable portion for tightly closing said cannula.

In those embodiments, it is hardly possible to preserve the required hygienic conditions, since the user has to necessarily manipulate the cannula, with pollution risks.

Another drawback of the prior art approaches is that the mentioned bottles present packaging problems, because of the outwardly extending cannula size.

Other known approaches are of complex structure and not effective to meet the user needs.

Accordingly, the task of the present invention is to obviate the above mentioned drawbacks, by providing such a bottle, provided with cap and warranty seal, which is specifically designed for vaginal washings and enemas and effective to preserve great hygienic

conditions.

Within that task, it is an object of the present invention to provide such a bottle which may be used without the need of manipulating the associated cannula.

Another object of the present invention is to provide such a bottle which is of easily packaging, thereby simplifying all of the related operations.

Yet another object of the present invention is to provide such a bottle including means for preventing pollutions to the solution held therein.

Yet another object of the present invention is to provide such a bottle which is simple to be made and which, moreover, is of reduced cost.

According to one aspect of the present invention, the above task and objects, as well as yet other objects which will become more apparent hereinafter are achieved by a bottle provided with a cap and warranty seal, specifically designed for vaginal washings and enemas, characterized in that it comprises a vessel, closed by a plug member as held in position by a ring member thereto there is coupled, through tearable members, a protection cap.

To the mentioned plug member there is slidably coupled a withdrawable cannula provided, on the outside

of said vessel, with a metering or supplying head, including closure and check valve means.

Further characteristics and advantages of the present invention will become more apparent from the following detailed description of a preferred embodiment thereof, given by way of example, being illustrated in the accompanying drawings, where:

figure 1 illustrates a possible embodiment of the vessel;

figure 2 illustrates the ring member with the cap provided with the warranty seal;

figure 3 illustrates, by a partial cross-section view, the plug member with applied the cap;

figure 4 is a top plan view illustrating the associated cap and ring member;

figure 5 is a cross-section view illustrating the detail of the plug member and of an abutment for preventing the cannula from being withdrawn;

figure 6 is a cross-section view illustrating two different operative positions of the supplying or metering head as arranged at the end of the cannula;

and

figure 7 illustrates a cross-sectional view of the cannula assembly.

With reference to the above mentioned figures, the bottle provided with cap and warranty or anti-tampering seal according to the present invention comprises a vessel, indicated overallly at the reference number 1 which is provided, at the top, with a mouth provided with annular outer ridges 2.

At the bottle mouth there is pressure fitted a plug member, indicated overallly at the reference number 3, which is held in position by a ring member 4 coupled to the mentioned ridges 2.

On the top of said ring member 4 there is coupled, through tearable portions 5, a cap 6 preferably made of a flexible material and having an elongated shape.

The plug member is provided with an outer skirt 10, effective to be pressure inserted inside the mouth of the vessel 1 and coupled at the top to an annular flange 11 abutting against said mouth and being held in position by the ring member 4.

The plug member 3 is moreover provided with an inner skirt 12 comprising at the top an annular port or opening defined by an abutment ring 13, inside of which there is slidably housed a withdrawable cannula 14, of elongated shape, which is provided, at its top end, as

it should be apparent from figure 3, with a stop dog 15 and, at the bottom end whereof, with an abutment portion 16 arranged under an annular groove 17.

Said stop dog 15 is effective to hold said cannula in the inside of the vessel, as the latter is sealed, and affords the possibility of withdrawing it as the cannula projecting from the plug member is withdrawn, to engage the abutment portion with the abutment ring 13 which, in turn, is inserted in said annular groove 17, thereby providing a tight closure between the outer surface of the cannula and the plug member.

At the top end of the cannula 14 there is provided a metering or supplying head, indicated overallly at 20, which is provided with holes 21 and is preferably of elongated and rounded shape.

The supplying head 20 is coupled to the top end of the cannula, with the possibility of assuming different positions as defined by the translation of said head with respect to the axial extension of said cannula.

In order to obtain said displacement, at the top end of the cannula 14 there is provided, on its outer surface, an annular recess 22 provided, at the ends thereof,

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With recessed portions 23 thereinto an annular lug 24 is inserted as formed on the inner surface of the supplying head 20 which, depending on the recess 23 being engaged with the annular lug 24, assumes either an opening or a closure position.

At the top end of the cannula there are provided closure and check valve means which consists of a shutter element 30 coupled to an axial stem 31, provided inside said supply head 20 and effective to engage, at a first position, with a port 32 as defined on a diaphragm 33 arranged for closing said cannula.

With the shutter 30 inserted into the opening 32, the cannula is tightly closed.

By displacing the supply head 20 with respect to the cannula, the shutter 30 is moved away from the port 32, with a consequent opening of the communication between the outside and inside of the vessel 1.

With the shutter 30 there is associated a mushroom shaped body 40 which extends through the overall circumference of the cannula and practically provided a check valve, since it is slanted in such a way to allow for the liquid inside the vessel to exit therefrom, whereas, by adhering to the inner walls of the cannula, it prevents the fluid from flowing in the opposite

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direction.

The operation of the bottle according to the present invention is a very simple one.

In fact, in order to open said bottle, it will be sufficient to tear the cap 6, in such a way as to break the portions 5.

Then, by exploiting the flexibility of said cap, it will be possible, by a slight pressure, to clamp said cap practically against the supply head 20 and provide a withdraw action to cause the cannula to be removed as far as the abutment portion 16, as provided at the bottom end of the cannula, engages with the abutment ring 13 of the plug member.

Successively, by a further pulling action, the supply head will be displaced and brought from the closure position to the solution metering position.

Upon having carried out the mentioned simple operations, which are obtained by simply acting on the outer surface of the cap, which will be then disposed of, the cannula may be readied for operation, without the need of manipulating portions of said cannula.

Moreover warranty or antitampering seals are provided effective to assure the proper preservation of the washing solution as well as valve means for

perfectly sealing said washing solution.

Another main feature of the present invention consists of the fact that said valve means are so designed as to also provide a check valve which prevents the used solution or liquid from flowing back to the inside of the bottle, thereby preventing any pollution.

The invention as disclosed is susceptible to several modifications and variations all whereof come within the scope of the invention.

Moreover all of the details may be replaced by other technically equivalent elements.

In practicing the invention the used materials, as well as the contingent shape and size, may be any according to requirements.

C L A I M S

- 1- A bottle provided with a cap and warranty seal, particularly designed for vaginal washings and enemas, characterized in that it comprises a vessel, closed by a plug member as held in position by a ring member thereto there is coupled, through tearable members, a protection cap thereto there is slidably coupled a withdrawable cannula provided, outside of said vessel, with a supply head including closure and check valve means.
- 2- A bottle provided with a cap and warranty seal, according to the preceding claim, characterized in that said cap is made of a flexible material and is effective to allow for said cannula to be withdrawn without manipulating it.
- 3- A bottle provided with a cap and warranty seal, according to the preceding claims, characterized in that said plug member is provided with an outer skirt to be pressure inserted into said vessel and with an inner skirt defining the passage opening of said cannula, an abutment ring being provided at said opening.
- 4- A bottle provided with a cap and warranty seal, according to one or more of the preceding claims, characterized in that said cannula, at its top end, is

provided with a stop dog effective to engage with the abutment ring member in such a way as to hold said cannula in said vessel as the latter is in its closed condition, and in that said cannula, at its other end, is provided with an abutment portion, arranged under an annular groove effective to engage with said abutment ring in such a way as to prevent said cannula from being further withdrawn from said plug member, said annular groove being effective to be tightly engaged by an abutment ring.

5- A bottle provided with a cap and warranty seal according to one or more of the preceding claims, characterized in that said supply head is coupled to said cannula in such a way as to be able to axially sliding from a first closure position to a second washing solution supplying position.

6- A bottle provided with a cap and warranty seal according to one or more of the preceding claims, characterized in that said cannula is provided, near its outer end, with an annular recess provided, at its axial ends, with recessed annular portions engageable with a lug as defined by the inner surface of the supply head, for locating the latter to the closure

position or to the supply position.

- 7- A bottle with cap and warranty seal according to one or more of the preceding claims, characterized in that said closure and check valve means consist of a shutter member, coupled to an axially extending stem, which extends inside said supply head and may be engaged with a port, as defined through a closure diaphragm, arranged at the top end of said cannula, from said shutter member a mushroom member extending provided with slanted lips and engaging with the inner surface of said cannula in order to allow for the washing solution or fluid to flow from the vessel to the outside but not in the opposite direction.
- 8- A bottle provided with a cap and warranty or anti-tampering seal, particularly designed for vaginal washings and enemas, according to the preceding claims and substantially as disclosed and illustrated for the intended objects.

Fig. 2

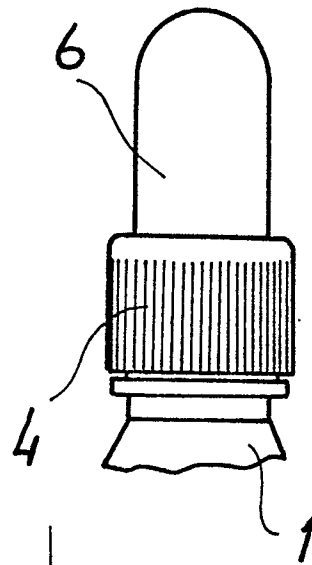


Fig. 1

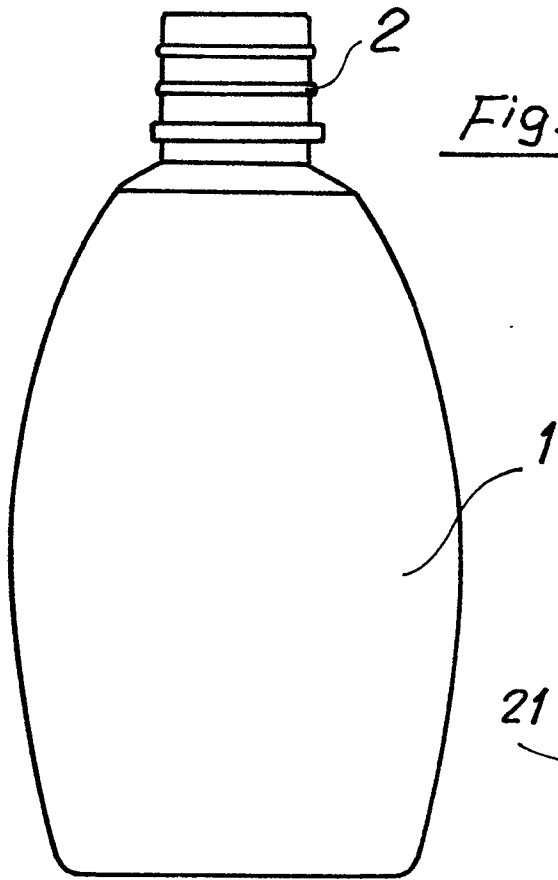


Fig. 3

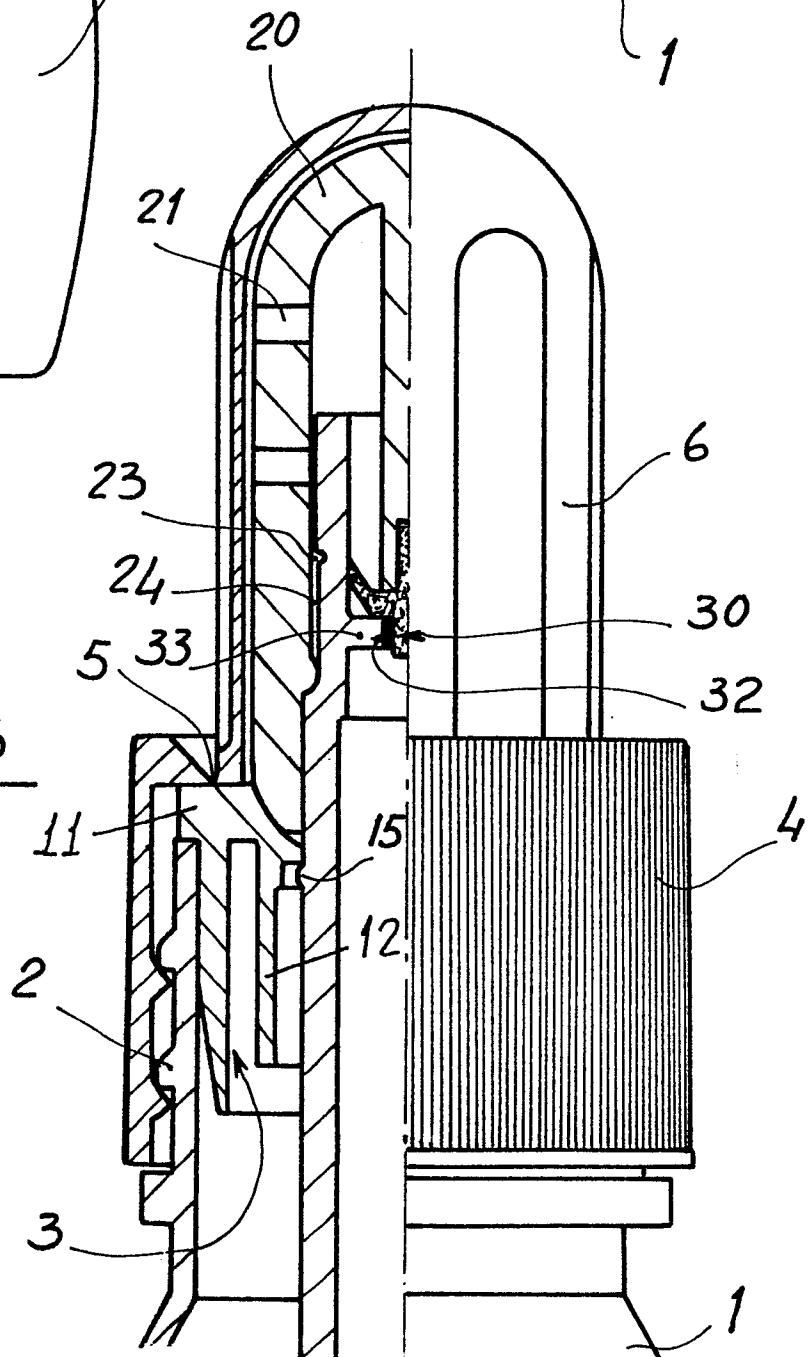
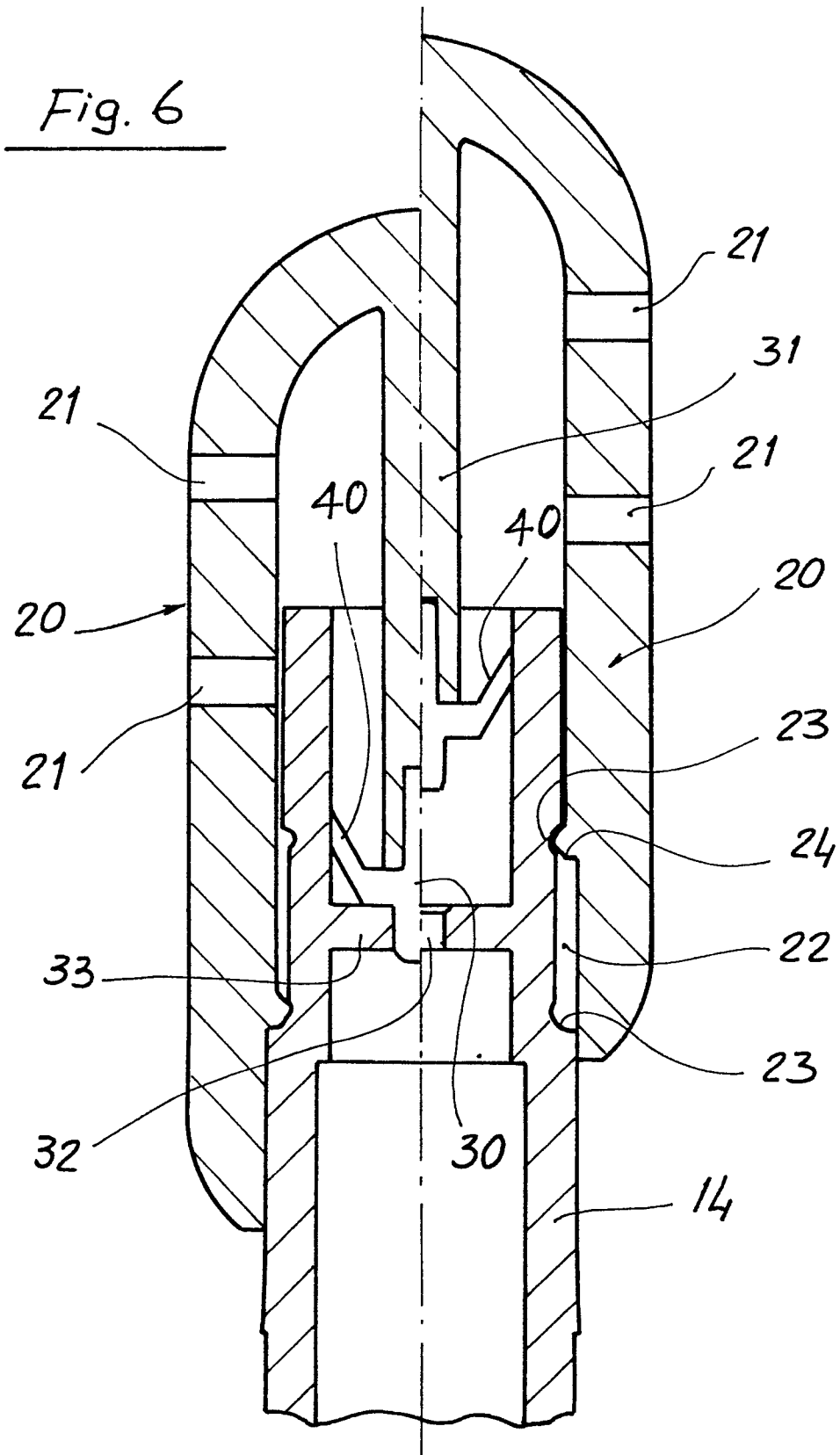


Fig. 6

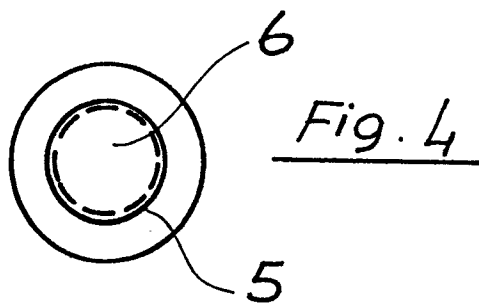


Fig. 5

